

CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

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5 An insulated glass assembly comprising:

a first panel assembly comprising:

a first glass panel having a perimeter; and

a first frame molded about and encapsulating the entire said
perimeter of said first glass panel;

10 a second panel assembly comprising:

a second glass panel having a perimeter;

a second frame encapsulating said perimeter of said second glass
panel; and

15 said first frame and said second frame joined together about their entire
perimeters.

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The insulated glass assembly of claim 1, wherein at least one of said first frame
and said second frame defines a desiccant channel opening towards the respective panel.

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The insulated glass assembly of claim 1 wherein said first frame and said second frame are plastic, and said first frame and said second frame are welded together.

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5 The insulated glass assembly of claim 3 wherein at least one of said first frame and said second frame defines a plurality of parallel ribs fused to the opposite frame.

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The insulated glass assembly of claim 4 wherein at least one frame member defines a vent channel substantially perpendicular to said ribs.

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An insulated glass assembly including:

a first panel assembly including a first glass panel and a first frame, said first glass panel having a perimeter, said first frame molded about said perimeter and creating an airtight seal between said first frame and said first glass panel;

15 a second panel assembly including a second glass panel and a second frame, said second glass panel having a perimeter, said second frame molded about said second glass perimeter and creating an airtight seal between said second frame and said second glass panel;
and

said first frame and said second frame joined together to form an airtight seal
20 between said first frame and said second frame.

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An insulated glass assembly as defined in claim 6 wherein said first frame and said second frame are welded together.

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5 An insulated glass assembly as defined in claim 6 wherein said first frame and said second frame are vibration welded together.

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An insulated glass assembly as defined in claim 6 wherein said first frame and said second frame are plastic.

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10 An insulated glass assembly as defined in claim 6 wherein said first frame comprises at least one rib and at least one channel adjacent to said rib, said rib engaging said second frame.

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15 An insulated glass assembly as defined in claim 6 wherein at least one of said first and said second frames defines a desiccant channel opening toward the other said first and second frames.

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An insulated glass assembly comprising:

20 a first glass panel having a first perimeter edge, first inner glass surface and a first outer glass surface;

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a first perimeter frame molded in one piece about said first perimeter edge, a portion of said first inner glass surface, and a portion of said first outer glass surface, said first perimeter frame forming an air tight seal with said first glass panel, said first perimeter frame including a first outer surface and a first inner surface including at least one rib and at least one melt down channel;

a second glass panel having a second perimeter edge, a second inner glass surface and a second outer glass surface; and

a second perimeter frame molded in one piece about said second perimeter edge, a portion of said second inner glass surface, and a portion of said second outer glass surface, said second perimeter frame forming an airtight seal with said second glass panel, said second perimeter frame including a second inner and a second outer surface, said second inner surface joined to said first inner surface.

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The insulated glass assembly of claim 12 wherein at least one of said first and said second perimeter frames defines a desiccant channel within said respective inner surface.

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A method of making an insulated glass assembly comprising the steps of:

molding a first plastic frame around the perimeter of a first glass panel;

molding a second plastic frame around the perimeter of a second glass panel; and

joining said first plastic frame to said second plastic frame.

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The method of claim 14 wherein said joining step comprises vibration welding.

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5 The method of claim 15 wherein one of said molding steps includes forming a receiver and further wherein said welding step includes positioning a welding fixture within said receiver.

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The method of claim 14 wherein said molding a first plastic frame includes molding at least one rib and at least one channel adjacent to said rib.

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10 The method of claim 14 comprising the step of forming a desiccant channel on at least one of said first and said second frames before said joining step.

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15 The method of claim 18 comprising the step of positioning a desiccant material within said desiccant channel.

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The method of claim 14 comprising the step of forming a vent channel.

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20 The method of claim 20 comprising the step of filling said cavity with an inert gas.

$\frac{d}{dt} \left(\frac{\partial L}{\partial \dot{x}} \right) = \frac{\partial L}{\partial x}$